

## Electrical data

|                               |             |
|-------------------------------|-------------|
| Load capacitance max. at Ue   | 0.2 $\mu$ F |
| Operating voltage Ub          | 10...30 VDC |
| Rated insulation voltage Ui   | 75 V DC     |
| Rated operating current Ie    | 100 mA      |
| Rated operating voltage Ue DC | 24 V        |
| Ripple max. (% of Ue)         | 15 %        |
| Switching frequency           | 1000 Hz     |
| Turn-off delay toff max.      | 0.5 ms      |
| Turn-on delay ton max.        | 0.5 ms      |
| Utilization category          | DC -I3      |
| Voltage drop Ud max. at Ie    | 1.5 V       |

## Environmental conditions

|                         |  |
|-------------------------|--|
| Ambient temperature     | -5...55 °C                                 |
| Contamination scale     | 3  |
| EN 60068-2-27, Shock    | Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6 |
| EN 60068-2-6, Vibration | 10...55 Hz, amplitude 1 mm, 3x30 min       |
| IP rating               | IP67                                       |

|                                   |                      |
|-----------------------------------|----------------------|
| Cable diameter D                  | 4.70 mm              |
| Cable length L                    | 2 m                  |
| Conductor cross-section           | 0.34 mm <sup>2</sup> |
| Connection                        | Cable, 2.00 m, PVC   |
| Number of conductors              | 3                    |
| Polarity reversal protected       | yes                  |
| Protection against device mix-ups | yes                  |
| Short-circuit protection          | yes                  |

## Functional safety

|              |        |
|--------------|--------|
| MTTF (40 °C) | 1428 a |
|--------------|--------|

## Interface

Switching output PNP normally open (NO)

Photoelectric Sensors  
BOS 12M-PS-RD10-02  
Order Code: BOS01TR



Material

|                          |                      |
|--------------------------|----------------------|
| Housing material         | Brass, nickel-plated |
| Material jacket          | PVC                  |
| Material sensing surface | PMMA                 |
| Surface protection       | nickel-plated        |

Mechanical data

|                        |               |
|------------------------|---------------|
| Dimension              | Ø 12 x 60 mm  |
| Mounting part          | Nut M12x1     |
| Tightening torque max. | 7 Nm<br>15 Nm |

Optical features

|                                |                           |
|--------------------------------|---------------------------|
| Ambient light max.             | 10000 Lux                 |
| Beam characteristic            | Divergent                 |
| LED group per IEC 62471        | Exempt Group              |
| Light spot size                | 28 x 28 mm at 250 mm      |
| Light type                     | LED, red light            |
| Principle of optical operation | Diffuse sensor, energetic |
| Switching function, optical    | Light-on                  |
| Wave length                    | 650 nm                    |

Range/Distance

|                                  |                   |
|----------------------------------|-------------------|
| Hysteresis H max. (% of Sr)      | 10.0 %            |
| Range                            | 1...250 mm        |
| Rated operating distance Sn      | 250 mm Adjustable |
| Temperature drift max. (% of Sr) | 10 %              |

Remarks

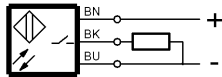
Order accessories separately.  
For additional information, refer to user's guide.  
Reference object (target): gray card, 200 x 200, 90 % remission, axial approach.  
The sensor is functional again after the overload has been eliminated.  
For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings



Wiring Diagrams



Opto Symbols

